

SRM TRP ENGINEERING COLLEGE

Approved by AICTE, Affiliated to Anna University

SRM Nagar, Irungalur, Tiruchirappalli – 621 105, Tamil Nadu, India



SRM TRP
ENGINEERING COLLEGE
Affiliated to ANNA UNIVERSITY
TIRUCHIRAPPALLI

**DEPARTMENT OF ARTIFICIAL
INTELLIGENCE AND DATA SCIENCE**

**MAPPING OF COURSE OUTCOME WITH
PROGRAM OUTCOME AND PROGRAM
SPECIFIC OUTCOME**

R-2021

Department of Artificial Intelligence and Data Science

Vision of the Institute

To carve the youth as dynamic, competent, valued and knowledgeable Technocrats through research, innovation and entrepreneurial development for accomplishing the global expectations.

Mission of the Institute

M1: To inculcate academic excellence in engineering education to create talented professionals

M2: To promote research in basic sciences and applied engineering among faculty and students to fulfill the societal expectations.

M3: To enhance the holistic development of students through meaningful interaction with industry and academia.

M4: To foster the students on par with sustainable development goals thereby contributing to the process of nation building

M5: To nurture and retain conducive lifelong learning environment towards professional excellence.

Vision of the Department

To be recognized as Centre of Excellence for innovation and research in computer science and engineering through the futuristic technologies by developing technocrats with ethical values to serve the society at global level.

Mission of the Department

M1: To develop quality and technically competent computer professionals through excellence in academics.

M2: To encourage the faculty and students towards research and development with advanced tools and technologies.

M3: To enhance industry institute interaction to build a strong technical expertise among the students.

M4: To empower and train the students to establish entrepreneurial endeavors with ethical behaviors and social consciousness.

M5: To nurture professional empowerment among students and take up higher studies through continuous Learning.

Program Educational Objectives (PEOs)

The graduate of Artificial Intelligence and Data Science will have

PEO1: Ability to analyze and get solutions in the field of Computer Science and Engineering through application of fundamental knowledge of Mathematics, Science and Electronics (Preparation).

PEO2: Innovative ideas, methods and techniques thereby rendering expertise to the industrial and societal needs in an effective manner and will be a competent computer/software engineer (Core Competency).

PEO3: Good and broad knowledge with interpersonal skills so as to comprehend, analyze, design and create novel products and solutions for real-time applications (Breadth).

PEO4: Professional with ethical values to develop leadership, effective communication skills and teamwork to excel in career. (Professionalism)

PEO5: Strive to learn continuously and update their knowledge in the specific fields of computer science & engineering for the societal growth. (Learning environment).

Program Specific Outcome (PSOs)

The graduates of Bachelor of Technology in Artificial Intelligence and Data Science Programme will be able to:

PSO1: Use Data structures, Data management, Networking, System software, Data science with high end programming skills to design and implement automation in various domains of emerging technologies.

PSO2: Apply engineering knowledge in project development with the end products and services in the field of hardware and software platform to accomplish the industry expectations.

Program Outcomes (POs)

PO1: Engineering Knowledge - To apply the fundamental knowledge of mathematics, science and computer science theory and principles to identify, formulate and solve the problems in the field of computer science and engineering.

PO2: Problem Analysis - To understand, analyze and solve the engineering problems using the concepts of computer science, mathematics and engineering science.

- PO3: **Design/Development of solutions** - To design a solution for different computer engineering problems to meet public health and safety, societal and environmental issues.
- PO4: **Investigation** - To analyze, interpret data and synthesis of information for complex problems related to computer science discipline using multidisciplinary knowledge.
- PO5: **Modern Tool Usage** - To use and evaluate modern engineering tools, components and programs to meet industry needs.
- PO6: **The Engineer and Society** - To use current tools, techniques and skills necessary with ethical responsibility to meet the industrial expectation.
- PO7: **Environmental and Sustainability** - To demonstrate the various contemporary issues related to economical, health and safety, legal, environmental and sustainability measures.
- PO8: **Ethics** – To apply professional ethics and responsibilities to meet quality engineering practice over the society.
- PO9: **Individual and Team Work** – To function as an individual and as a member or leader on teams to accomplish a multidisciplinary task.
- PO10: **Communications** – To communicate effectively with a range of audience and write technical documents.
- PO11: **Project Management and Finance** - To enrich the quality of life by implementing recent technologies through innovative ideas and projects.
- PO12: **Life – Long Learning** - To participate and succeed in their career by recognizing the need through lifelong learning approach.

Course Code / Course Name	C101/ HS3251/ Professional English I
Semester	I
Regulation	R2021

Course code	Course Outcome	
	Students will be able to	BTL
HS3152.1	Use appropriate words in a professional context	L1RE
HS3152.2	Gain understanding of basic grammatical structures and use them in right context	L3AP
HS3152.3	Read and infer the denotative and connotative meanings of technical texts	L2UN
HS3152.4	Read and Interpret information presented in tables, charts, and other graphic forms	L4AN
HS3152.5	Write definitions, descriptions, narrations and essays on various topics.	L6CR

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
HS3152.1	1	1	1	1	1	3	3	3	1	3	0	3
HS3152.2	1	1	1	1	1	3	3	3	1	3	0	3
HS3152.3	2	3	2	3	2	3	3	3	2	3	3	3
HS3152.4	2	3	2	3	2	3	3	3	2	3	3	3
HS3152.5	2	3	3	3	0	3	3	3	2	3	0	3
HS3152	1.60	2.20	1.80	2.20	1.50	3.00	3.00	3.00	1.60	3.00	3.00	3.00

Course Code	PSO1	PSO2
HS3152.1	0	0
HS3152.2	0	0
HS3152.3	0	0
HS3152.4	0	0
HS3152.5	0	0
HS3152	0.0	0.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C102 / MA3151/Matrices and Calculus
Semester	I
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		BTL
MA3151.1	Use the matrix algebra methods for solving practical problems.	L4AN
MA3151.2	Apply differential calculus tools in solving various application problems.	L3AP
MA3151.3	Able to use differential calculus ideas on several variable functions.	L3AP
MA3151.4	Apply different methods of integration in solving practical problems.	L3AP
MA3151.5	Apply multiple integral ideas in solving areas, volumes and other practical problems.	L3AP

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
MA3151.1	3	3	1	1	0	0	0	0	2	0	2	3
MA3151.2	3	3	1	1	0	0	0	0	2	0	2	3
MA3151.3	3	3	1	1	0	0	0	0	2	0	2	3
MA3151.4	3	3	1	1	0	0	0	0	2	0	2	3
MA3151.5	3	3	1	1	0	0	0	0	2	0	2	3
MA3151	3.00	3.00	1.00	1.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	3.00

Course Code	PSO1	PSO2
MA3151.1	0	0
MA3151.2	0	0
MA3151.3	0	0
MA3151.4	0	0
MA3151.5	0	0
MA3151	0.0	0.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C103 / PH3151/Engineering Physics
Semester	I
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		BTL
PH3151.1	Understand the importance of mechanics.	L2UN
PH3151.2	Express their knowledge in electromagnetic waves.	L3AP
PH3151.3	Demonstrate a strong foundational knowledge in oscillations, optics and lasers	L1RE
PH3151.4	Understand the importance of quantum physics.	L2UN
PH3151.5	Comprehend and apply quantum mechanical principles towards the formation of energy bands.	L3AP

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
PH3151.1	3	3	2	1	1	1	0	0	0	0	0	0
PH3151.2	3	3	2	1	2	1	0	0	0	0	0	0
PH3151.3	3	3	2	2	2	1	0	0	0	0	0	1
PH3151.4	3	3	1	1	2	1	0	0	0	0	0	0
PH3151.5	3	3	1	1	2	1	0	0	0	0	0	0
PH3151	3.00	3.00	1.60	1.20	1.80	1.00	0.00	0.00	0.00	0.00	0.00	1.00

Course Code	PSO1	PSO2
PH3151.1	0	0
PH3151.2	0	0
PH3151.3	0	0
PH3151.4	0	0
PH3151.5	0	0
PH3151	0.00	0.00

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C104 / CY3151/Engineering Chemistry
Semester	I
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		BTL
CY3151.1	To infer the quality of water from quality parameter data and propose suitable treatment methodologies to treat water.	L2UN
CY3151.2	To identify and apply basic concepts of nanoscience and nanotechnology in designing the synthesis of nano materials for engineering and technology applications.	L3AP
CY3151.3	To apply the knowledge of phase rule and composites for material selection requirements.	L3AP
CY3151.4	To recommend suitable fuels for engineering processes and applications.	L4AN
CY3151.5	To recognize different forms of energy resources and apply them for suitable applications in energy sectors.	L1RE

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CY3151.1	3	2	2	1	0	1	1	0	0	0	0	1
CY3151.2	2	0	0	1	0	2	2	0	0	0	0	0
CY3151.3	3	1	0	0	0	0	0	0	0	0	0	0
CY3151.4	3	1	1	0	0	1	2	0	0	0	0	0
CY3151.5	3	1	2	1	0	2	2	0	0	0	0	2
CY3151	2.80	1.30	1.60	1.00	0.00	1.50	1.80	0.00	0.00	0.00	0.00	1.50

Course Code	PSO1	PSO2
CY3151.1	0	0
CY3151.2	0	0
CY3151.3	0	0
CY3151.4	0	0
CY3151.5	0	0
CY3151	0.0	0.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C105 / GE3151/Problem Solving and Python Programming
Semester	I
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
GE3151.1	Develop algorithmic solutions to simple computational problems.	L6CR
GE3151.2	Develop and execute simple Python programs.	L6CR
GE3151.3	Write simple Python programs using conditionals and looping for solving problems	L1RE
GE3151.4	Decompose a Python program into functions.	L2UN
GE3151.5	Represent compound data using Python lists, tuples, dictionaries etc.	L1RE
GE3151.6	Read and write data from/to files in Python programs.	L1RE

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
GE3151.1	3	3	3	3	2	0	0	0	0	0	2	2
GE3151.2	3	3	3	3	2	0	0	0	0	0	2	2
GE3151.3	3	3	3	3	2	0	0	0	0	0	2	0
GE3151.4	2	2	0	2	2	0	0	0	0	0	1	0
GE3151.5	1	2	0	0	1	0	0	0	0	0	1	0
GE3151.6	2	2	0	0	2	0	0	0	0	0	1	0
GE3151	2.00	3.00	3.00	3.00	2.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00

Course Code	PSO1	PSO2
GE3151.1	3	3
GE3151.2	3	0
GE3151.3	3	0
GE3151.4	3	0
GE3151.5	2	0
GE3151.6	2	0
GE3151	3.0	3.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C106 / GE3152/தமிழர் மரபு/Heritage of Tamils
Semester	I
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		BTL
GE3152.1	Discuss the Tamil language and literature.	L2UN
GE3152.2	Explain about the modern art sculpture.	L2UN
GE3152.3	Illustrate the folk and martial arts.	L3AP
GE3152.4	Describe the Thinaï concepts of Tamil	L1RE
GE3152.5	Summarize the contribution of Tamil in Indian culture.	L5EV
GE3152.6	Define the role of siddha medicine.	L1RE

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
GE3152.1	0	0	0	0	0	3	3	2	0	2	0	2
GE3152.2	0	0	0	0	0	3	3	2	0	2	0	2
GE3152.3	0	0	0	0	0	3	3	2	0	2	0	2
GE3152.4	0	0	0	0	0	3	3	2	0	2	0	2
GE3152.5	0	0	0	0	0	3	3	2	0	2	0	2
GE3152.6	0	0	0	0	0	3	3	2	0	2	0	2
GE3152	0.00	0.00	0.00	0.00	0.00	3.00	3.00	2.00	0.00	2.00	0.00	2.00

Course Code	PSO1	PSO2
GE3152.1	0	0
GE3152.2	0	0
GE3152.3	0	0
GE3152.4	0	0
GE3152.5	0	0
GE3152.6	0	0
GE3152	0.00	0.00

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C107 / GE3171/Problem Solving and Python Programming Laboratory
Semester	I
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
GE3171.1	Develop algorithmic solutions to simple computational problems	L6CR
GE3171.2	Develop and execute simple Python programs.	L6CR
GE3171.3	Implement programs in Python using conditionals and loops for solving problems.	L3AP
GE3171.4	Deploy functions to decompose a Python program.	L3AP
GE3171.5	Process compound data using Python data structures.	L5EV
GE3171.6	Utilize Python packages in developing software applications.	L3AP

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
GE3171.1	3	3	3	3	2	0	0	0	0	0	2	2
GE3171.2	3	3	3	3	2	0	0	0	0	0	2	2
GE3171.3	3	3	3	3	2	0	0	0	0	0	2	0
GE3171.4	2	2	0	2	2	0	0	0	0	0	1	0
GE3171.5	1	2	0	0	1	0	0	0	0	0	1	0
GE3171.6	2	2	0	0	2	0	0	0	0	0	1	0
GE3171	2.00	3.00	3.00	3.00	2.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00

Course Code	PSO1	PSO2
GE3171.1	3	3
GE3171.2	3	-
GE3171.3	3	-
GE3171.4	3	-
GE3171.5	2	-
GE3171.6	2	-
GE3171	3.0	3.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C108 / BS3171/Physics Laboratory
Semester	I
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		BTL
BS3171.1	Understand the functioning of various physics laboratory equipment.	L2UN
BS3171.2	Use graphical models to analyze laboratory data.	L3AP
BS3171.3	Use Mathematical models as a medium for quantitative reasoning and describing physical reality.	L3AP
BS3171.4	Access, process and analyze scientific information.	L4AN
BS3171.5	Solve problems individually and collaboratively.	L3AP

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
BS3171.1	3	2	3	1	1	0	0	0	0	0	0	0
BS3171.2	3	3	2	1	1	0	0	0	0	0	0	0
BS3171.3	3	2	3	1	1	0	0	0	0	0	0	0
BS3171.4	3	3	2	1	1	0	0	0	0	0	0	0
BS3171.5	3	2	3	1	1	0	0	0	0	0	0	0
BS3171	3.00	2.40	2.60	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Course Code	PSO1	PSO2
BS3171.1	0	0
BS3171.2	0	0
BS3171.3	0	0
BS3171.4	0	0
BS3171.5	0	0
BS3171	0.0	0.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C109/BS3171/ Chemistry Laboratory
Semester	I
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
BS3171.1	To analyse the quality of water samples with respect to their acidity, alkalinity, hardness and DO.	L4AN
BS3171.2	To determine the amount of metal ions through volumetric and spectroscopic techniques	L3AP
BS3171.3	To analyse and determine the composition of alloys.	L4AN
BS3171.4	To learn simple method of synthesis of nanoparticles.	L1RE
BS3171.5	To quantitatively analyse the impurities in solution by electroanalytical techniques.	L4AN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
BS3171.1	3	0	1	0	0	2	2	0	0	0	0	2
BS3171.2	3	1	2	0	0	1	2	0	0	0	0	1
BS3171.3	3	2	1	1	0	0	1	0	0	0	0	0
BS3171.4	2	1	2	0	0	2	2	0	0	0	0	0
BS3171.5	2	1	2	0	1	2	2	0	0	0	0	1
BS3171	2.60	1.30	1.60	1.00	1.00	1.40	1.80	0.00	0.00	0.00	0.00	1.30

Course Code	PSO1	PSO2
BS3171.1	0	0
BS3171.2	0	0
BS3171.3	0	0
BS3171.4	0	0
BS3171.5	0	0
BS3171	0.0	0.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C110 / GE3172/English Laboratory
Semester	I
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
GE3172.1	Speak effectively in group discussion held in a formal /semi-formal context	L2UN
GE3172.2	Discuss, analysis and present concepts and problems from various perspectives to arrive at suitable solutions	L4AN
GE3172.3	Write emails, letters and effective job applications	L6CR
GE3172.4	Write critical reports to convey data & information with clarity and precision	L6CR
GE3172.5	Give appropriate instructions and recommendations for safe execution of talks	L2UN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
GE3172.1	3	3	3	3	1	3	3	3	3	3	3	3
GE3172.2	3	3	3	3	1	3	3	3	3	3	3	3
GE3172.3	3	3	3	3	1	3	3	3	3	3	3	3
GE3172.4	3	3	3	3	1	3	3	3	3	3	3	3
GE3172.5	3	3	3	3	1	3	3	3	3	3	3	3
GE3172	3.00	3.00	3.00	3.00	1.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

Course Code	PSO1	PSO2
GE3172.1	0	0
GE3172.2	0	0
GE3172.3	0	0
GE3172.4	0	0
GE3172.5	0	0
GE3172	0.0	0.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C111 / HS3252/Professional English - II
Semester	II
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		BTL
HS3252.1	Compare and contrast products and ideas in technical texts	L5EV
HS3252.2	Identify and report cause and effects in events, industrial processes through technical texts	L3AP
HS3252.3	Analyse problems in order to arrive at feasible solutions and communicate them in the written format	L4AN
HS3252.4	Present their ideas and opinions in a planned and logical manner	L2UN
HS3252.5	Draft effective resumes in the context of job search	L6CR

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
HS3252.1	3	3	3	3	3	3	3	3	2	3	3	3
HS3252.2	3	3	3	3	3	3	3	3	2	3	3	3
HS3252.3	3	3	3	3	3	3	3	3	2	3	3	3
HS3252.4	3	3	3	3	2	3	3	3	2	3	3	3
HS3252.5	0	0	0	0	0	0	0	0	3	3	3	3
HS3252	3.00	3.00	3.00	3.00	2.75	3.00	3.00	3.00	2.20	3.00	3.00	3.00

Course Code	PSO1	PSO2
HS3252.1	0	0
HS3252.2	0	0
HS3252.3	0	0
HS3252.4	0	0
HS3252.5	0	0
HS3252	0.0	0.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C112 / MA3251/Statistics and Numerical Methods
Semester	II
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
MA3251.1	Apply the concept of testing of hypothesis for small and large samples in real life problems	L3AP
MA3251.2	Apply the basic concepts of classifications of design of experiments in the field of agriculture.	L5EV
MA3251.3	Appreciate the numerical techniques of interpolation in various intervals and apply the numerical techniques of differentiation and integration for engineering problems.	L3AP
MA3251.4	Understand the knowledge of various techniques and methods for solving first and second order ordinary differential equations.	L2UN
MA3251.5	Solve the partial and ordinary differential equations with initial and boundary conditions by using certain techniques with engineering applications.	L5EV

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
MA3251.1	3	3	1	1	1	0	0	0	2	0	2	3
MA3251.2	3	3	1	1	1	0	0	0	2	0	2	3
MA3251.3	3	3	1	1	1	0	0	0	2	0	2	3
MA3251.4	3	3	1	1	1	0	0	0	2	0	2	3
MA3251.5	3	3	1	1	1	0	0	0	2	0	2	3
MA3251	3.00	3.00	1.00	1.00	1.00	0.00	0.00	0.00	2.00	0.00	2.00	3.00

Course Code	PSO1	PSO2
MA3251.1	0	0
MA3251.2	0	0
MA3251.3	0	0
MA3251.4	0	0
MA3251.5	0	0
MA3251	0.0	0.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C113 / PH3256 / PHYSICS FOR INFORMATION SCIENCE
Semester	II
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
PH3256.1	Gain knowledge on classical and quantum electron theories, and energy band structures.	L1RE
PH3256.2	Acquire knowledge on basics of semiconductor physics and its applications in various devices.	L3AP
PH3256.3	Get knowledge on magnetic properties of materials and their applications in data storage.	L1RE
PH3256.4	Have the necessary understanding on the functioning of optical materials for opto electronics.	L2UN
PH3256.5	Understand the basics of quantum structures and their applications and basics of quantum computing.	L2UN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
PH3256.1	3	1	0	0	0	0	0	0	0	0	0	0
PH3256.2	3	1	2	0	0	0	0	0	0	0	0	0
PH3256.3	3	0	0	1	2	1	1	0	0	0	0	0
PH3256.4	3	0	2	1	3	0	1	0	0	0	0	0
PH3256.5	3	2	2	2	2	1	2	0	0	0	0	2
PH3256	3.00	1.30	2.00	1.30	2.30	1.00	1.30	0.00	0.00	0.00	0.00	2.00

Course Code	PSO1	PSO2
PH3256.1	0	0
PH3256.2	0	0
PH3256.3	0	0
PH3256.4	0	0
PH3256.5	0	0
PH3256	0.0	0.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C114 / BE3251/Basic Electrical and Electronics Engineering
Semester	II
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
BE3251.1	Compute the electric circuit parameters for simple problems.	L2UN
BE3251.2	Explain the working principle and applications of electrical machines.	L5EV
BE3251.3	Analyze the characteristics of analog electronic devices.	L4AN
BE3251.4	Explain the basic concepts of digital electronics.	L5EV
BE3251.5	Explain the operating principles of measuring instruments.	L5EV

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
BE3251.1	2	2	1	0	0	0	0	1	0	0	0	2
BE3251.2	2	2	1	0	0	0	0	1	0	0	0	2
BE3251.3	2	1	1	0	0	0	0	1	0	0	0	2
BE3251.4	2	2	1	0	0	0	0	1	0	0	0	2
BE3251.5	2	2	1	0	0	0	0	1	0	0	0	2
BE3251	2.00	1.80	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	2.00

Course Code	PSO1	PSO2
BE3251.1	0	0
BE3251.2	0	0
BE3251.3	0	0
BE3251.4	0	0
BE3251.5	0	0
BE3251	0.0	0.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C115 / GE3251/Engineering Graphics
Semester	II
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
GE3251.1	Use BIS conventions and specifications for engineering drawing.	L3AP
GE3251.2	Construct the conic curves, involutes and cycloid.	L3AP
GE3251.3	Solve practical problems involving projection of lines.	L3AP
GE3251.4	Draw the orthographic, isometric and perspective projections of simple solids.	L1RE
GE3251.5	Draw the development of simple solids.	L1RE

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
GE3251.1	3	1	2	0	2	0	0	0	0	3	0	2
GE3251.2	3	1	2	0	2	0	0	0	0	3	0	2
GE3251.3	3	1	2	0	2	0	0	0	0	3	0	2
GE3251.4	3	1	2	0	2	0	0	0	0	3	0	2
GE3251.5	3	1	2	0	2	0	0	0	0	3	0	2
GE3251	3.00	1.00	2.00	0.00	2.00	0.00	0.00	0.00	0.00	3.00	0.00	2.00

Course Code	PSO1	PSO2
GE3251.1	2	2
GE3251.2	2	2
GE3251.3	2	2
GE3251.4	2	2
GE3251.5	2	2
GE3251	2.0	2.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C116 / GE3252/தமிழரும் தொழில் நுட்பமும் / Tamils and Technology
Semester	II
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
GE3252.1	Explain about the weaving and pottery technology in Tamil Nadu	L5EV
GE3252.2	Describe about the design and construction technology in Tamil Nadu	L2UN
GE3252.3	Discuss about the manufacturing technology in Tamil Nadu.	L2UN
GE3252.4	Illustrate the agriculture and irrigation technology in Tamil Nadu	L4AN
GE3252.5	Define the growth of science in Tamil.	L1RE
GE3252.6	Learn the contribution of the Tamils to Indian culture.	L1RE

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
GE3252.1	0	0	0	0	0	3	3	2	0	2	0	2
GE3252.2	0	0	0	0	0	3	3	2	0	2	0	2
GE3252.3	0	0	0	0	0	3	3	2	0	2	0	2
GE3252.4	0	0	0	0	0	3	3	2	0	2	0	2
GE3252.5	0	0	0	0	0	3	3	2	0	2	0	2
GE3252.6	0	0	0	0	0	3	3	2	0	2	0	2
GE3252	0.00	0.00	0.00	0.00	0.00	3.00	3.00	2.00	0.00	2.00	0.00	2.00

Course Code	PSO1	PSO2
GE3252.1	0	0
GE3252.2	0	0
GE3252.3	0	0
GE3252.4	0	0
GE3252.5	0	0
GE3252.6	0	0
GE3252	0.0	0.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C117 / AD3251 / DATA STRUCTURES DESIGN
Semester	II
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		BTL
AD3251.1	Explain abstract data types	L2UN
AD3251.2	Design, implement, and analyse linear data structures, such as lists, queues, and stacks, according to the needs of different applications	L6CR
AD3251.3	Design, implement, and analyse efficient tree structures to meet requirements such as searching, indexing, and sorting	L6CR
AD3251.4	Model problems as graph problems and implement efficient graph algorithms to solve them	L3AP

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
AD3251.1	2	3	1	2	2	1	1	0	1	2	1	3
AD3251.2	1	2	1	2	2	0	0	0	1	1	1	2
AD3251.3	2	3	1	2	3	0	0	0	1	1	1	2
AD3251.4	2	1	0	1	1	0	0	0	2	1	1	2
AD3251.5	1	2	1	2	2	1	1	0	1	2	1	3
AD3251	2.00	2.00	1.00	2.00	2.00	1.00	1.00	0.00	1.00	1.00	1.00	2.00

Course Code	PSO1	PSO2
AD3251.1	2	1
AD3251.2	2	2
AD3251.3	2	1
AD3251.4	2	3
AD3251.5	2	2
AD3251	2.0	2.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C118 / GE3271/Engineering Practices Laboratory
Semester	II
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		BTL
GE3271.1	Draw pipe line plan; lay and connect various pipe fittings used in common household plumbing work; Saw; plan; make joints in wood materials used in common household wood work.	L1RE
GE3271.2	Wire various electrical joints in common household electrical wire work.	L5EV
GE3271.3	Weld various joints in steel plates using arc welding work; Machine various simple processes like turning, drilling, tapping in parts; Assemble simple mechanical assembly of common household equipment's; Make a tray out of metal sheet using sheet metal work.	L2UN
GE3271.4	Solder and test simple electronic circuits; Assemble and test simple electronic components on PCB.	L3AP

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
GE3271.1	3	2	0	0	1	1	1	0	0	0	0	2
GE3271.2	3	2	0	0	1	1	1	0	0	0	0	2
GE3271.3	3	2	0	0	1	1	1	0	0	0	0	2
GE3271	3.00	2.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	2.00

Course Code	PSO1	PSO2
GE3271.1	2	1
GE3271.2	2	1
GE3271.3	2	1
GE3271	2.0	1.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C119 / AD3271 / DATA STRUCTURES DESIGN LABORATORY
Semester	II
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
AD3271.1	Implement ADTs as Python classes	L3AP
AD3271.2	Design, implement, and analyse linear data structures, such as lists, queues, and stacks, according to the needs of different applications	L6CR
AD3271.3	Design, implement, and analyse efficient tree structures to meet requirements such as searching, indexing, and sorting	L6CR
AD3271.4	Model problems as graph problems and implement efficient graph algorithms to solve them	L3AP

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
AD3271.1	3	2	1	1	0	0	0	0	1	3	3	3
AD3271.2	3	2	2	3	1	0	0	0	3	1	3	2
AD3271.3	3	2	1	3	1	0	0	0	2	1	1	1
AD3271.4	2	3	1	3	0	0	0	0	2	3	2	3
AD3271.5	1	2	3	1	1	0	0	0	2	1	3	1
AD3271	2.00	2.00	2.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00

Course Code	PSO1	PSO2
AD3271.1	1	3
AD3271.2	1	3
AD3271.3	3	2
AD3271.4	3	3
AD3271.5	1	3
AD3271	2.0	3.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C120/ GE3272/ COMMUNICATION LABORATORY
Semester	II
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		BTL
GE3272.1	Speak effectively in group discussions held in a formal/semi-formal contexts.	L2UN
GE3272.2	Discuss, analyse and present concepts and problems from various perspectives to arrive at suitable solutions	L4AN
GE3272.3	Write emails, letters and effective job applications.	L6CR
GE3272.4	Write critical reports to convey data and information with clarity and precision	L6CR
GE3272.5	Give appropriate instructions and recommendations for safe execution of tasks	L2UN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
GE3272.1	2	3	3	3	1	3	3	3	3	3	3	3
GE3272.2	2	3	3	3	1	3	3	3	3	3	3	3
GE3272.3	2	2	3	3	1	3	3	3	3	3	3	3
GE3272.4	3	3	3	3	3	3	3	3	3	3	3	3
GE3272.5	3	3	3	3	3	3	3	3	3	3	3	3
GE3272	2.40	2.80	3.00	3.00	1.80	3.00	3.00	3.00	3.00	3.00	3.00	3.00

Course Code	PSO1	PSO2
GE3272.1	0	0
GE3272.2	0	0
GE3272.3	0	0
GE3272.4	0	0
GE3272.5	0	0
GE3272	0.0	0.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C201/MA3354/Discrete Mathematics
Semester	III
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
MA3354.1	Have knowledge of the concepts needed to test the logic of a program.	L1RE
MA3354.2	Have an understanding in identifying structures on many levels.	L2UN
MA3354.3	Be aware of a class of functions which transform a finite set into another finite set which relates to input and output functions in computer science.	L4AP
MA3354.4	Be aware of the counting principles.	L2UN
MA3354.5	Be exposed to concepts and properties of algebraic structures such as groups, rings and fields.	L2UN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
MA3354.1	3	3	2	0	0	0	0	0	0	0	0	2
MA3354.2	3	3	0	0	0	0	0	0	0	0	0	0
MA3354.3	0	3	2	0	0	2	0	0	0	3	0	0
MA3354.4	0	2	2	2	0	0	0	0	0	0	0	0
MA3354.5	0	2	2	2	0	0	0	0	0	2	0	0
MA3354	1.00	3.00	2.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00

Course Code	PSO1	PSO2
MA3351.1	0	0
MA3351.2	0	0
MA3351.3	0	0
MA3351.4	0	0
MA3351.5	0	0
MA3351	0.0	0.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C202/CS3351/ Digital Principles and Computer Organization
Semester	III
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
CS3351.1	Design various combinational digital circuits using logic gates	L6CR
CS3351.2	Design sequential circuits and analyze the design procedures	L6CR
CS3351.3	State the fundamentals of computer systems and analyze the execution of an instruction	L4AN
CS3351.4	Analyze different types of control design and identify hazards	L4AN
CS3351.5	Identify the characteristics of various memory systems and I/O communication.	L4AN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CS3351.1	3	3	3	3	3	2	1	1	1	1	2	3
CS3351.2	3	3	3	3	2	1	1	1	1	1	2	3
CS3351.3	3	3	3	3	2	2	1	1	1	1	2	3
CS3351.4	3	3	3	3	1	1	1	1	1	1	1	2
CS3351.5	3	3	3	3	1	2	1	1	1	1	1	2
CS3351	3.00	3.00	3.00	3.00	1.80	1.60	1.00	1.00	1.00	1.00	1.60	2.60

Course Code	PSO1	PSO2
CS3351.1	2	3
CS3351.2	1	2
CS3351.3	2	3
CS3351.4	1	3
CS3351.5	1	2
CS3351	1.4	2.6

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C203 / AD3391/ DATABASE DESIGN AND MANAGEMENT
Semester	III
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
AD3391.1	Define the data science process.	L1RE
AD3391.2	Understand different types of data description for data science process	L2UN
AD3391.3	Gain Knowledge on relationships between data.	L2UN
AD3391.4	Use the python Libraries for Data Warehousing	L3AP
AD3391.5	Apply visualization Libraries in Python to interpret and explore data.	L3AP

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
AD3391.1	2	2	3	3	0	0	0	0	3	1	2	1
AD3391.2	2	3	1	3	1	0	0	0	1	2	2	1
AD3391.3	2	2	2	1	1	0	0	0	2	3	1	2
AD3391.4	2	2	3	1	0	0	0	0	1	2	1	2
AD3391.5	3	1	3	2	1	0	0	0	1	3	1	1
AD3391	2.00	2.00	2.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	1.00	1.00

Course Code	PSO1	PSO2
AD3391.1	2	3
AD3391.2	3	3
AD3391.3	1	1
AD3391.4	2	2
AD3391.5	2	1
AD3391	2.0	2.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course	C204 / AD3351 / DESIGN AND ANALYSIS OF ALGORITHMS
Semester	III
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
AD3351.1	Analyze the efficiency of recursive and non-recursive algorithms mathematically	L4AN
AD3351.2	Analyze the efficiency of brute force, divide and conquer, decrease and conquer, Transform and conquer algorithmic techniques	L4AN
AD3351.3	Implement and analyze the problems using dynamic programming and greedy algorithmic techniques	L4AN
AD3351.4	Solve the problems using iterative improvement techniques for optimization.	L3AP
AD3351.5	Compute the limitations of algorithmic power and solve the problems using backtracking and branch and bound techniques.	L2UN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
AD3351.1	3	3	3	1	1	0	0	0	1	1	2	2
AD3351.2	2	1	1	3	2	0	0	0	2	2	1	2
AD3351.3	3	2	1	2	2	0	0	0	2	1	1	2
AD3351.4	3	2	3	2	2	0	0	0	3	3	3	2
AD3351.5	3	1	2	3	3	0	0	0	2	2	2	2
AD3351	3.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00

Course Code	PSO1	PSO2
AD3351.1	3	2
AD3351.2	2	2
AD3351.3	1	3
AD3351.4	2	1
AD3351.5	3	1
AD3351	2.0	2.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course	C205 / AD3301 / DATA EXPLORATION AND VISUALIZATION
Semester	III
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		BTL
AD3301.1	Understand the fundamentals of exploratory data analysis.	L2UN
AD3301.2	Implement the data visualization using Matplotlib.	L5EV
AD3301.3	Perform univariate data exploration and analysis.	L4AN
AD3301.4	Apply bivariate data exploration and analysis.	L3AP
AD3301.5	Use Data exploration and visualization techniques for multivariate and time series data.	L3AP

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
AD3301.1	3	1	3	3	0	0	0	0	2	3	3	3
AD3301.2	2	2	2	1	1	0	0	0	3	2	3	1
AD3301.3	2	1	2	1	1	0	0	0	3	2	1	2
AD3301.4	2	2	2	1	-	0	0	0	1	2	1	3
AD3301.5	3	1	1	2	1	0	0	0	3	2	1	2
AD3301	2.00	1.00	2.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00

Course Code	PSO1	PSO2
AD3301.1	2	2
AD3301.2	3	1
AD3301.3	2	2
AD3301.4	1	3
AD3301.5	2	2
AD3301	2.0	2.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C206 / AL3391 / ARTIFICIAL INTELLIGENCE
Semester	III
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		BTL
AL3391.1	Make use of the python libraries for data science	L3AP
AL3391.2	Make use of the basic Statistical and Probability measures for data science.	L3AP
AL3391.3	Perform descriptive analytics on the benchmark data sets.	L4AN
AL3391.4	Perform correlation and regression analytics on standard data sets	L4AN
AL3391.5	Present and interpret data using visualization packages in Python	L2UN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
AL3391.1	3	1	3	3	0	0	0	0	2	3	3	1
AL3391.2	2	2	1	1	1	0	0	0	2	2	3	1
AL3391.3	2	1	2	1	-	0	0	0	2	1	1	3
AL3391.4	2	1	2	2	-	0	0	0	2	1	2	2
AL3391.5	3	2	2	1	1	0	0	0	3	2	1	2
AL3391	2.00	1.00	2.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00

Course Code	PSO1	PSO2
AL3391.1	2	1
AL3391.2	3	2
AL3391.3	1	2
AL3391.4	1	3
AL3391.5	2	2
AL3391	2.0	2.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C207 / AD3381 / DATABASE DESIGN AND MANAGEMENT LABORATORY
Semester	III
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
AD3381.1	Understand the database development life cycle	L2UN
AD3381.2	Design relational database using conceptual-to-relational mapping, Normalization	L6CR
AD3381.3	Apply SQL for creation, manipulation and retrieval of data	L4AP
AD3381.4	Develop a database applications for real-time problems	L6CR
AD3381.5	Design and query object-relational databases	L6CR

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
AD3381.1	3	1	3	3	0	0	0	0	1	1	1	3
AD3381.2	2	2	1	3	1	0	0	0	3	2	3	1
AD3381.3	2	1	3	1	-	0	0	0	3	3	1	1
AD3381.4	2	2	3	1	-	0	0	0	2	3	2	1
AD3381.5	3	3	1	3	1	0	0	0	1	3	2	3
AD3381	2.00	2.00	2.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00

Course Code	PSO1	PSO2
AD3381.1	2	2
AD3381.2	1	1
AD3381.3	2	1
AD3381.4	2	1
AD3381.5	3	3
AD3381	2.0	2.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C208 / AD3311 / ARTIFICIAL INTELLIGENCE LABORATORY
Semester	III
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
AD3311.1	Design and implement search strategies	L3AP
AD3311.2	Implement game playing and CSP techniques	L3AP
AD3311.3	Develop logical reasoning systems	L4AN
AD3311.4	Develop probabilistic reasoning systems	L4AN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
AD3311.1	2	1	3	3	0	0	0	0	1	1	2	1
AD3311.2	1	2	3	3	2	0	0	0	3	2	3	3
AD3311.3	3	1	3	3	1	0	0	0	1	3	1	2
AD3311.4	2	1	1	1	1	0	0	0	2	3	1	2
AD3311.5	3	1	1	1	1	0	0	0	1	3	3	3
AD3311	2.00	1.00	2.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00

Course Code	PSO1	PSO2
AD3311.1	3	2
AD3311.2	3	3
AD3311.3	1	1
AD3311.4	2	2
AD3311.5	3	3
AD3311	2.0	2.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C209 / GE3361/Professional Development\$
Semester	III
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		BTL
GE3361.1	Use MS Word to create quality documents, by structuring and organizing content for their day to day technical and academic requirements	L6CR
GE3361.2	Use MS EXCEL to perform data operations and analytics, record, retrieve data as per requirements and visualize data for ease of understanding	L6CR
GE3361.3	Use MS PowerPoint to create high quality academic presentations by including common tables, charts, graphs, interlinking other elements, and using media objects	L6CR

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
GE3361.1	0	0	0	0	3	0	0	0	0	2	0	2
GE3361.2	0	0	0	0	3	0	0	0	0	2	0	2
GE3361.3	0	0	0	0	3	0	0	0	0	2	0	2
GE3361	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00

Course Code	PSO1	PSO2
GE3361.1	0	3
GE3361.2	0	3
GE3361.3	0	3
GE3361	0.00	3.00

1	Slight	2	Moderate	3	Substantial
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Course Code / Course	C210 / MA3391 / PROBABILITY AND STATISTICS
Semester	IV
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
MA3391.1	Understand the fundamental knowledge of the concepts of probability and have knowledge of standard distributions which can describe real life phenomenon.	L2UN
MA3391.2	Understand the basic concepts of one and two dimensional random variables and apply in engineering applications.	L2UN
MA3391.3	Apply the concept of testing of hypothesis for small and large samples in real life problems.	L3AP
MA3391.4	Apply the basic concepts of classifications of design of experiments in the field of agriculture and statistical quality control.	L3AP
MA3391.5	Have the notion of sampling distributions and statistical techniques used in engineering and management problems.	L2UN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
MA3391.1	3	3	0	0	0	0	0	0	2	0	0	2
MA3391.2	3	3	0	0	0	0	0	0	2	0	0	2
MA3391.3	3	3	0	0	0	0	0	0	2	0	0	2
MA3391.4	3	3	3	2	0	0	0	0	2	0	0	2
MA3391.5	3	3	2	2	0	0	0	0	2	0	0	2
MA3391	3.00	3.00	1.00	1.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00

Course Code	PSO1	PSO2
MA3391.1	0	0
MA3391.2	0	0
MA3391.3	0	0
MA3391.4	0	0
MA3391.5	0	0
MA3391	0.00	0.00

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C211 / AL3452 / OPERATING SYSTEMS
Semester	IV
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
AL3452.1	Analyze various scheduling algorithms and process synchronization.	L4AN
AL3452.2	Explain deadlock, prevention and avoidance algorithms.	L2UN
AL3452.3	Compare and contrast various memory management schemes.	L2UN
AL3452.4	Explain the functionality of file systems I/O systems, and Virtualization	L2UN
AL3452.5	Compare iOS and Android Operating Systems.	L2UN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
AL3452.1	3	1	1	1	0	0	0	0	1	1	1	2
AL3452.2	2	3	1	3	1	0	0	0	3	2	2	3
AL3452.3	2	2	3	3	2	0	0	0	3	1	1	2
AL3452.4	2	2	1	2	1	0	0	0	1	3	2	1
AL3452.5	2	3	3	2	1	0	0	0	3	1	2	1
AL3452	2.00	2.00	2.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00

Course Code	PSO1	PSO2
AL3452.1	2	1
AL3452.2	3	3
AL3452.3	1	1
AL3452.4	1	1
AL3452.5	3	1
AL3452	2.0	1.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C212 / AL3451 / MACHINE LEARNING
Semester	IV
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		BTL
AL3451.1	Explain the basic concepts of machine learning.	L2UN
AL3451.2	Construct supervised learning models.	L5EV
AL3451.3	Construct unsupervised learning algorithms.	L5EV
AL3451.4	Evaluate and compare different models	L5EV

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
AL3451.1	2	1	2	1	0	0	0	0	3	3	2	2
AL3451.2	1	3	3	1	2	0	0	0	2	2	2	1
AL3451.3	2	1	3	3	2	0	0	0	1	1	1	1
AL3451.4	2	3	3	2	1	0	0	0	3	2	3	2
AL3451.5	1	1	3	3	1	0	0	0	3	1	1	3
AL3451	2.00	2.00	3.00	2.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00

Course Code	PSO1	PSO2
AL3451.1	2	2
AL3451.2	3	1
AL3451.3	1	2
AL3451.4	1	2
AL3451.5	3	3
AL3451	2.0	2.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C213 / AD3491/ FUNDAMENTALS OF DATA SCIENCE AND ANALYTICS
Semester	IV
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
AD3491.1	Explain the data analytics pipeline	L2UN
AD3491.2	Describe and visualize data	L2UN
AD3491.3	Perform statistical inferences from data	L5EV
AD3491.4	Analyze the variance in the data	L4AN
AD3491.5	Build models for predictive analytics	L4AN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
AD3491.1	1	1	2	1	-	-	-	-	3	1	3	2
AD3491.2	1	1	2	2	2	-	-	-	2	2	3	2
AD3491.3	1	1	3	1	1	-	-	-	2	3	1	1
AD3491.4	2	3	1	3	1	-	-	-	3	3	3	3
AD3491.5	2	1	1	1	2	-	-	-	3	3	1	3
AD3491	1.00	1.00	2.00	2.00	2.00	0.00	0.00	0.00	3.00	2.00	2.00	2.00

Course Code	PSO1	PSO2
AD3491.1	0	1
AD3491.2	0	1
AD3491.3	0	1
AD3491.4	0	0
AD3491.5	0	0
AD3491	0.00	1.00

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C214 / CS3591 / COMPUTER NETWORKS
Semester	IV
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
CS3591.1	Explain the basic layers and its functions in computer networks.	L2UN
CS3591.2	Understand the basics of how data flows from one node to another.	L2UN
CS3591.3	Analyze routing algorithms.	L4AN
CS3591.4	Describe protocols for various functions in the network.	L2UN
CS3591.5	Analyze the working of various application layer protocols.	L4AN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CS3591.1	3	1	2	3	-	-	-	-	1	1	3	1
CS3591.2	3	2	1	2	2	-	-	-	2	2	2	1
CS3591.3	2	2	3	2	1	-	-	-	3	3	1	2
CS3591.4	1	3	1	3	1	-	-	-	1	2	1	1
CS3591.5	3	3	1	1	2	-	-	-	2	2	2	2
CS3591	2.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00	1.00

Course Code	PSO1	PSO2
CS3591.1	3	2
CS3591.2	3	2
CS3591.3	1	1
CS3591.4	1	3
CS3591.5	2	2
CS3591	2.0	2.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C215 / GE3451/Environmental Sciences and Sustainability
Semester	IV
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
GE3451.1	To recognize and understand the functions of environment, ecosystems and biodiversity and their conservation	L2UN
GE3451.2	To identify the causes, effects of environmental pollution and natural disasters and contribute to the preventive measures in the society	L4AN
GE3451.3	To identify and apply the understanding of renewable and non-renewable resources and contribute to the sustainable measures to preserve them for future generations	L3AP
GE3451.4	To recognize the different goals of sustainable development and apply them for suitable technological advancement and societal development.	L3AP
GE3451.5	To demonstrate the knowledge of sustainability practices and identify green materials, energy cycles and the role of sustainable urbanization	L3AP

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
GE3451.1	2	1	0	0	0	2	3	0	0	0	0	2
GE3451.2	3	2	0	0	0	3	3	0	0	0	0	2
GE3451.3	3	0	1	0	0	2	2	0	0	0	0	2
GE3451.4	3	2	1	1	0	2	2	0	0	0	0	2
GE3451.5	3	2	1	0	0	2	2	0	0	0	0	1
GE3451	2.80	1.80	1.00	1.00	0.00	2.20	2.40	0.00	0.00	0.00	0.00	1.80

Course Code	PSO1	PSO2
GE3451.1	0	0
GE3451.2	0	0
GE3451.3	0	0
GE3451.4	0	0
GE3451.5	0	0
GE3451	0.0	0.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C216 / AD3411 / DATA SCIENCE AND ANALYTICS LABORATORY
Semester	IV
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		BTL
AD3411.1	Write python programs to handle data using Numpy and Pandas	L6CR
AD3411.2	Perform descriptive analytics	L4AN
AD3411.3	Perform data exploration using Matplotlib	L4AN
AD3411.4	Perform inferential data analytics	L4AN
AD3411.5	Build models of predictive analytics	L4AN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
AD3411.1	2	2	2	3	0	0	0	0	2	2	3	3
AD3411.2	1	2	1	2	2	0	0	0	1	2	3	1
AD3411.3	2	2	2	2	2	0	0	0	3	1	1	2
AD3411.4	2	3	1	3	2	0	0	0	2	3	1	2
AD3411.5	3	1	1	1	2	0	0	0	1	2	2	3
AD3411	2.00	2.00	1.00	2.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00

Course Code	PSO1	PSO2
AD3411.1	3	2
AD3411.2	3	2
AD3411.3	2	3
AD3411.4	2	1
AD3411.5	2	2
AD3411	2.0	2.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C217 / AD3461 / MACHINE LEARNING LABORATORY
Semester	IV
Regulation	R2021

Course code	Course Outcome	
Students will be able to		BTL
AD3461.1	Apply suitable algorithms for selecting the appropriate features for analysis.	L3AP
AD3461.2	Implement supervised machine learning algorithms on standard datasets and evaluate the performance.	L3AP
AD3461.3	Apply unsupervised machine learning algorithms on standard datasets and evaluate the performance.	L3AP
AD3461.4	Build the graph based learning models for standard data sets.	L2UN
AD3461.5	Assess and compare the performance of different ML algorithms and select the suitable one based on the application.	L2UN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
AD3461.1	2	2	2	1	0	0	0	0	1	2	3	3
AD3461.2	2	1	1	3	2	0	0	0	3	2	3	2
AD3461.3	2	2	1	1	2	0	0	0	1	1	1	1
AD3461.4	2	2	3	3	2	0	0	0	1	2	1	1
AD3461.5	2	2	3	1	2	0	0	0	3	1	1	1
AD3461	2.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00

Course Code	PSO1	PSO2
AD3461.1	3	2
AD3461.2	3	1
AD3461.3	2	3
AD3461.4	1	2
AD3461.5	2	1
AD3461	2.0	2.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C301 / AD3501/ DEEP LEARNING
Semester	V
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
AD3501.1	Explain the basics in deep neural networks	L2UN
AD3501.2	Apply Convolution Neural Network for image processing	L3AP
AD3501.3	Apply Recurrent Neural Network and its variants for text analysis	L3AP
AD3501.4	Apply model evaluation for various applications	L3AP
AD3501.5	Apply autoencoders and generative models for suitable applications	L3AP

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
AD3501.1	3	2	2	3	1	-	-	-	2	3	1	2
AD3501.2	2	2	2	3	3	-	-	-	1	2	2	3
AD3501.3	3	3	3	3	3	-	-	-	2	1	1	2
AD3501.4	3	3	1	1	1	-	-	-	1	3	1	3
AD3501.5	3	2	2	2	3	-	-	-	2	3	2	2
AD3501	2.80	2.40	2.00	2.40	2.20	0.00	0.00	0.00	1.60	2.40	1.40	2.40

Course Code	PSO1	PSO2
AD3501.1	3	3
AD3501.2	1	1
AD3501.3	2	1
AD3501.4	2	1
AD3501.5	2	3
AD3501	2.00	1.80

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C302 / CW3551/ DATA AND INFORMATION SECURITY
Semester	V
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
CW3551.1	Understand the basics of data and information security	L2UN
CW3551.2	Understand the legal, ethical and professional issues in information security	L2UN
CW3551.3	Understand the various authentication schemes to simulate different applications.	L2UN
CW3551.4	Understand various security practices and system security standards	L2UN
CW3551.5	Understand the Web security protocols for E-Commerce applications	L2UN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CW3551.1	3	2	3	1	0	0	0	0	1	3	1	2
CW3551.2	1	3	3	3	2	0	0	0	1	2	2	2
CW3551.3	2	3	3	3	1	0	0	0	1	3	1	2
CW3551.4	3	3	1	1	1	0	0	0	3	1	1	3
CW3551.5	3	2	2	3	2	0	0	0	1	2	1	2
CW3551	2.40	2.60	2.40	2.20	1.50	0.00	0.00	0.00	1.40	2.20	1.20	2.20

Course Code	PSO1	PSO2
CW3551.1	3	1
CW3551.2	1	2
CW3551.3	1	2
CW3551.4	2	3
CW3551.5	2	2
CW3551	1.8	2.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C303 / CCS334 / BIG DATA ANALYTICS
Semester	V
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		BTL
CCS334.1	Describe big data and use cases from selected business domains.	L2UN
CCS334.2	Explain NoSQL big data management.	L2UN
CCS334.3	Install, configure, and run Hadoop and HDFS.	L1RE
CCS334.4	Perform map-reduce analytics using Hadoop.	L3AP
CCS334.5	Use Hadoop-related tools such as HBase, Cassandra, Pig, and Hive for big data analytics.	L3AP

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CCS334.1	3	3	3	3	3	0	0	0	2	2	3	1
CCS334.2	3	3	2	3	2	0	0	0	2	2	3	3
CCS334.3	3	3	3	2	3	0	0	0	2	2	1	2
CCS334.4	2	3	3	3	3	0	0	0	2	2	3	2
CCS334.5	3	3	3	3	3	0	0	0	3	1	3	2
CCS334	2.80	3.00	2.80	2.80	2.80	0.00	0.00	0.00	2.20	1.80	2.60	2.00

Course Code	PSO1	PSO2
CCS334.1	1	3
CCS334.2	2	3
CCS334.3	2	3
CCS334.4	3	3
CCS334.5	3	2
CCS334	2.2	2.8

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C304 / CCS336/ CLOUD SERVICES MANAGEMENT
Semester	V
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
CCS336.1	Exhibit cloud-design skills to build and automate business solutions using cloud technologies	L3AP
CCS336.2	Possess Strong theoretical foundation leading to excellence and excitement towards adoption of cloud-based services	L2UN
CCS336.3	Solve the real world problems using Cloud services and technologies	L3AP

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CCS336.1	3	3	1	1	1	0	0	0	2	1	3	2
CCS336.2	3	1	2	3	2	0	0	0	1	2	3	1
CCS336.3	1	1	3	1	3	0	0	0	3	3	1	1
CCS336.4	1	1	1	2	3	0	0	0	2	3	3	1
CCS336.5	1	3	3	2	2	0	0	0	1	3	1	2
CCS336	1.80	1.80	2.00	1.80	2.20	0.00	0.00	0.00	1.80	2.40	2.20	1.40

Course Code	PSO1	PSO2
CCS336.1	2	1
CCS336.2	2	2
CCS336.3	3	2
CCS336.4	1	1
CCS336.5	1	3
CCS336	1.8	1.8

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C305 / CCS334/ BIG DATA ANALYTICS
Semester	V
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
CCS334.1	Describe big data and use cases from selected business domains..	L2UN
CCS334.2	Explain NoSQL big data management	L5EV
CCS334.3	Install, configure, and run Hadoop and HDFS.	L2UN
CCS334.4	Perform map0reduce analytics using Hadoop.	L3AP
CCS334.5	Use Hadoop related tools such as HBase, Cassandra, Pig, and Hive for big data analytics.	L3AP

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CCS334.1	3	3	3	3	3	0	0	0	2	2	3	1
CCS334.2	3	3	2	3	2	0	0	0	2	2	3	3
CCS334.3	3	3	3	2	3	0	0	0	2	2	1	2
CCS334.4	2	3	3	3	3	0	0	0	2	2	3	2
CCS334.5	3	3	3	3	3	0	0	0	3	1	3	2
CCS334	2.80	3.00	2.80	2.80	2.80	0.00	0.00	0.00	2.20	1.80	2.60	2.00

Course Code	PSO1	PSO2
CCS334.1	1	3
CCS334.2	2	3
CCS334.3	2	3
CCS334.4	3	3
CCS334.5	3	2
CCS334	2.2	2.8

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C306 / CCS336/ CLOUD SERVICES MANAGEMENT
Semester	VI
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		BTL
CCS336.1	Exhibit cloud design skills to build and automate business solutions using cloud technologies.	L4AN
CCS336.2	Possess Strong theoretical foundation leading to excellence and excitement towards adoption of cloud based services	L5EV
CCS336.3	Solve the real world problems using Cloud services and technologies	L3AP

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CCS336.1	3	3	1	1	1	0	0	0	2	1	3	2
CCS336.2	3	1	2	3	2	0	0	0	1	2	3	1
CCS336.3	1	1	3	1	3	0	0	0	3	3	1	1
CCS336.4	1	1	1	2	3	0	0	0	2	3	3	1
CCS336.5	1	3	3	2	2	0	0	0	1	3	1	2
CCS336	1.80	1.80	2.00	1.80	2.20	0.00	0.00	0.00	1.80	2.40	2.20	1.40

Course Code	PSO1	PSO2
CCS336.1	2	1
CCS336.2	2	2
CCS336.3	3	2
CCS336.4	1	1
CCS336.5	1	3
CCS336	2.0	1.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C307 / CCS352/ MULTIMEDIA AND ANIMATION
Semester	V
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
CCS352.1	Get the bigger picture of the context of Multimedia and its applications	L2UN
CCS352.2	Use the different types of media elements of different formats on content pages	L3AP
CCS352.3	Author 2D and 3D creative and interactive presentations for different target multimedia applications.	L6CR
CCS352.4	Use different standard animation techniques for 2D, 2 1/2 D, 3D applications	L3AP
CCS352.5	Understand the complexity of multimedia applications in the context of cloud, security, big data streaming, social networking, CBIR etc.,	L2UN
CCS352.6	Get the bigger picture of the context of Multimedia and its applications	L2UN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CCS352.1	3	2	3	2	3	0	0	0	3	2	1	2
CCS352.2	3	3	3	3	3	0	0	0	3	3	2	2
CCS352.3	3	3	3	3	3	0	0	0	3	3	2	3
CCS352.4	3	3	3	3	3	2	0	0	3	3	3	3
CCS352.5	3	3	3	3	3	2	0	0	3	3	3	3
CCS352	3.00	2.80	3.00	2.80	3.00	2.00	0.00	0.00	3.00	2.80	2.20	2.60

Course Code	PSO1	PSO2
CCS352.1	3	2
CCS352.2	3	2
CCS352.3	3	2
CCS352.4	3	3
CCS352.5	3	3
CCS352	3.0	2.4

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C308 / MX3084 / DISASTER RISK REDUCTION AND MANAGEMENT
Semester	VI
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
MX3084.1	To impart knowledge on the concepts of Disaster, Vulnerability and Disaster Risk reduction(DRR)	L1RE
MX3084.2	To enhance understanding on Hazards, Vulnerability and Disaster Risk Assessment prevention and risk reduction	L6CR
MX3084.3	To develop disaster response skills by adopting relevant tools and technology	L6CR
MX3084.4	Enhance awareness of institutional processes for Disaster response in the country	L6CR
MX3084.5	Develop rudimentary ability to respond to their surroundings with potential Disaster response in areas where they live, with due sensitivity	L6CR

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
MX3084.1	3	3	2	3	0	0	2	2	0	0	2	0
MX3084.2	3	3	3	3	0	0	2	1	0	0	2	0
MX3084.3	3	3	3	3	0	0	2	2	0	0	0	0
MX3084.4	3	3	2	3	0	0	2	1	0	0	2	0
MX3084.5	3	3	2	3	0	0	2	2	0	0	2	0
MX3084	3.00	3.00	2.00	3.00	0.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00

Course Code	PSO1	PSO2
MX3084.1	2	0
MX3084.2	2	0
MX3084.3	2	0
MX3084.4	2	0
MX3084.5	3	0
MX3084	2.0	0.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C309 / AD3511 /DEEP LEARNING LABORATORY
Semester	VI
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		BTL
AD3511.1	Apply deep neural network for simple problems (K3)	L3AP
AD3511.2	Apply Convolution Neural Network for image processing (K3)	L3AP
AD3511.3	Apply Recurrent Neural Network and its variants for text analysis (K3)	L3AP
AD3511.4	Apply generative models for data augmentation (K3)	L3AP
AD3511.5	Develop real-world solutions using suitable deep neural networks (K4)	L6CR

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
AD3511.1	3	2	1	1	1	0	0	0	3	2	3	2
AD3511.2	1	3	2	2	2	0	0	0	3	2	2	2
AD3511.3	3	2	1	2	1	0	0	0	2	3	1	1
AD3511.4	3	3	1	2	1	0	0	0	1	3	2	2
AD3511.5	3	3	3	3	2	0	0	0	1	2	3	1
AD3511	2.60	2.60	1.60	2.00	1.40	0.00	0.00	0.00	2.00	2.40	2.20	1.60

Course Code	PSO1	PSO2
AD3511.1	3	3
AD3511.2	1	3
AD3511.3	2	3
AD3511.4	3	2
AD3511.5	3	3
AD3511	2.4	2.8

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	C310 / AD3512/ SUMMER INTERNSHIP
Semester	VI
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
AD3512.1	Understand the organogram of the industry and appreciate the skill enhancement	L2UN
AD3512.2	Write an effective mini-project or internship report	L6CR
AD3512.3	Deliver an effective presentation	L6CR
AD3512.4	Inculcate non-plagiarism and teamwork ethics	L5EV
AD3512.5	Understand the organogram of the industry and appreciate the skill enhancement	L2UN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
AD3512.1	3	3	3	3	3	0	0	3	3	3	0	3
AD3512.2	1	3	3	3	3	0	0	3	3	3	0	3
AD3512.3	1	3	3	3	3	0	0	3	3	3	0	3
AD3512.4	1	3	3	3	3	0	0	3	3	3	0	3
AD3512.5	1	3	3	3	3	0	0	3	3	3	0	3
AD3512	1.50	3.00	3.00	3.00	3.00	0.00	0.00	3.00	3.00	3.00	0.00	3.00

Course Code	PSO1	PSO2
AD3512.1	3	3
AD3512.2	1	3
AD3512.3	1	3
AD3512.4	1	3
AD3512.5	1	3
AD3512	1.50	3.00

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	CS3691 / EMBEDDED SYSTEMS AND IOT
Semester	VI
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
CS3691.1	Explain the architecture of embedded processors.	L2UN
CS3691.2	Write embedded C programs.	L6CR
CS3691.3	Design simple embedded applications.	L6CR
CS3691.4	Compare the communication models in IOT	L2UN
CS3691.5	Design IoT applications using Arduino/Raspberry Pi /open platform.	L6CR

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CS3691.1	3	1	1	3	1	-	-	-	3	1	2	3
CS3691.2	2	3	1	3	2	-	-	-	1	2	3	1
CS3691.3	2	2	3	2	3	-	-	-	1	3	1	1
CS3691.4	2	2	2	1	1	-	-	-	1	3	1	1
CS3691.5	3	2	1	1	3	-	-	-	3	2	3	2
CS3691	2.40	2.00	1.60	2.00	2.00	0.00	0.00	0.00	1.80	2.20	2.00	1.60

Course Code	PSO1	PSO2
CS3691.1	2	1
CS3691.2	1	1
CS3691.3	2	1
CS3691.4	2	2
CS3691.5	1	3
CS3691	1.6	1.6

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	OIE351 / INTRODUCTION TO INDUSTRIAL ENGINEERING
Semester	VI
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
OIE351.1	Ability To define the concepts of productivity and productivity measurement approaches.	L4AN
OIE351.2	Ability to evaluate appropriate location models for various facility types and design various facility layouts	L4AN
OIE351.3	Ability To conduct a method study and time study to improve the efficiency of the system.	L4AN
OIE351.4	Ability to Control the quality of processes using control charts in manufacturing/service industries.	L4AN
OIE351.5	Ability to define the Planning strategies and Material Requirement Plan.	L4AN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
OIE351.1	2	0	0	0	0	0	0	0	0	0	0	1
OIE351.2	2	2	3	2	0	0	0	0	0	0	0	0
OIE351.3	2	2	2	1	1	0	0	2	0	0	1	0
OIE351.4	2	2	3	1	1	0	0	0	0	0	0	0
OIE351.5	1	2	2	0	0	0	0	0	0	0	0	1
OIE351	2.20	2.00	2.50	1.30	1.00	0.00	0.00	2.00	0.00	0.00	1.00	1.00

Course Code	PSO1	PSO2
OIE351.1	0	1
OIE351.2	0	0
OIE351.3	2	0
OIE351.4	0	0
OIE351.5	0	0
OIE351	2.0	1.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	CCS335 / CLOUD COMPUTING
Semester	VI
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
CCS335.1	Understand the design challenges in the cloud.	L2UN
CCS335.2	Apply the concept of virtualization and its types.	L3AP
CCS335.3	Experiment with virtualization of hardware resources and Docker.	L6CR
CCS335.4	Develop and deploy services on the cloud and set up a cloud environment.	L6CR
CCS335.5	Explain security challenges in the cloud environment.	L2UN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CCS335.1	3	2	1	1	1	-	-	-	2	3	1	3
CCS335.2	3	1	2	2	1	-	-	-	1	2	1	3
CCS335.3	2	3	2	3	1	-	-	-	3	1	1	3
CCS335.4	1	2	3	3	3	-	-	-	3	3	1	2
CCS335.5	2	3	3	1	3	-	-	-	2	2	1	2
CCS335	2.20	2.20	2.20	2.00	1.80	0.00	0.00	0.00	2.20	2.20	1.00	2.60

Course Code	PSO1	PSO2
CCS335.1	3	2
CCS335.2	2	2
CCS335.3	1	2
CCS335.4	2	2
CCS335.5	1	1
CCS335	1.8	1.8

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	CCS341 / DATA WAREHOUSING
Semester	VI
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
CCS341.1	Design data warehouse architecture for various Problems	L6CR
CCS341.2	Apply the OLAP Technology	L3AP
CCS341.3	Analyse the partitioning strategy	L4AN
CCS341.4	Critically analyze the differentiation of various schema for given problem	L4AN
CCS341.5	Frame roles of process manager & system manager	L1RE

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CCS341.1	3	3	3	2	2	0	0	0	3	0	0	3
CCS341.2	3	2	2	2	3	0	0	0	2	0	2	2
CCS341.3	3	3	3	3	0	0	0	0	0	0	0	3
CCS341.4	3	3	3	3	0	0	0	0	0	0	0	3
CCS341.5	3	2	2	2	0	2	0	0	0	0	2	2
CCS341	3.00	2.60	2.60	1.20	2.50	1.00	0.00	0.00	2.50	0.00	2.00	2.60

Course Code	PSO1	PSO2
CCS341.1	0	0
CCS341.2	0	0
CCS341.3	0	0
CCS341.4	0	0
CCS341.5	0	0
CCS341	0.0	0.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	CCS354 / NETWORK SECURITY
Semester	VI
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
CCS354.1	Classify the encryption techniques	L2UN
CCS354.2	Illustrate the key management technique and authentication.	L3AP
CCS354.3	Evaluate the security techniques applied to network and transport layer	L5EV
CCS354.4	Discuss the application layer security standards.	L2UN
CCS354.5	Apply security practices for real time applications.	L3AP

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CCS354.1	3	3	2	2	2	0	0	0	2	1	2	1
CCS354.2	1	1	3	2	2	0	0	0	2	2	1	1
CCS354.3	1	2	1	1	2	0	0	0	3	3	1	3
CCS354.4	2	2	3	2	3	0	0	0	3	3	2	1
CCS354.5	2	1	3	2	2	0	0	0	2	1	1	3
CCS354	1.80	1.80	2.40	1.80	2.20	0.00	0.00	0.00	2.40	2.00	1.40	1.80

Course Code	PSO1	PSO2
CCS354.1	2	3
CCS354.2	3	1
CCS354.3	2	1
CCS354.4	2	1
CCS354.5	2	1
CCS354	2.2	1.4

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	CCS340 / CYBER SECURITY
Semester	VI
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
CCS340.1	Explain the basics of cyber security, cyber crime and cyber law (K2)	L2UN
CCS340.2	Classify various types of attacks and learn the tools to launch the attacks (K2)	L2UN
CCS340.3	Apply various tools to perform information gathering (K3)	L3AP
CCS340.4	Apply intrusion techniques to detect intrusion (K3)	L3AP
CCS340.5	Apply intrusion prevention techniques to prevent intrusion (K3)	L3AP

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CCS340.1	3	3	1	2	2	-	-	-	1	1	3	2
CCS340.2	2	1	2	2	2	-	-	-	3	2	2	1
CCS340.3	1	1	1	3	3	-	-	-	1	2	1	1
CCS340.4	1	1	1	2	2	-	-	-	2	3	3	3
CCS340.5	3	1	3	1	3	-	-	-	3	1	2	2
CCS340	2.00	1.40	1.60	2.00	2.40	0.00	0.00	0.00	2.00	1.80	2.20	1.80

Course Code	PSO1	PSO2
CCS340.1	1	3
CCS340.2	1	2
CCS340.3	3	3
CCS340.4	3	1
CCS340.5	2	2
CCS340	2.0	2.2

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	MX3089 / INDUSTRIAL SAFETY
Semester	VI
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
MX3089.1	Understand the basic concept of safety.	L2UN
MX3089.2	Obtain knowledge of Statutory Regulations and standards.	L2UN
MX3089.3	Know about the safety Activities of the Working Place.	L1RE
MX3089.4	Analyze on the impact of Occupational Exposures and their Remedies	L4AN
MX3089.5	Obtain knowledge of Risk Assessment Techniques	L1RE

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
MX3089.1	3	3	3	1	1	3	2	2	3	3	1	3
MX3089.2	2	3	2	2	1	3	2	3	3	2	1	3
MX3089.3	2	2	2	2	1	2	2	2	3	2	1	2
MX3089.4	3	3	3	2	2	3	2	2	3	2	1	3
MX3089.5	3	2	3	2	2	3	2	2	3	2	2	3
MX3089	3.00	3.00	3.00	2.00	1.00	3.00	2.00	2.00	3.00	2.00	1.00	3.00

Course Code	PSO1	PSO2
MX3089.1	3	3
MX3089.2	3	3
MX3089.3	3	3
MX3089.4	3	3
MX3089.5	3	3
MX3089	3.0	3.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	GE3791 / HUMAN VALUES AND ETHICS
Semester	VII
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
GE3791.1	Identify the importance of democratic, secular and scientific values in harmonious functioning of social life	L4AN
GE3791.2	Practice democratic and scientific values in both their personal and professional life.	L2UN
GE3791.3	Find rational solutions to social problems.	L4AN
GE3791.4	Behave in an ethical manner in society	L2UN
GE3791.5	Practice critical thinking and the pursuit of truth.	L4AN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
GE3791.1	0	1	0	0	0	0	0	3	0	0	0	0
GE3791.2	0	0	0	0	0	0	0	3	0	0	0	0
GE3791.3	1	0	0	0	0	0	0	3	0	0	0	0
GE3791.4	0	0	0	1	0	0	0	3	0	0	0	0
GE3791.5	0	0	1	0	0	0	0	3	0	0	0	0
GE3791	1.00	1.00	1.00	1.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00

Course Code	PSO1	PSO2
GE3791.1	0	0
GE3791.2	0	0
GE3791.3	0	0
GE3791.4	0	0
GE3791.5	0	0
GE3791	0.0	0.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	GE3751 / PRINCIPLES OF MANAGEMENT
Semester	VII
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		BTL
GE3751.1	Upon completion of the course, students will be able to have clear understanding of managerial functions like planning, organizing, staffing, leading & controlling.	L2UN
GE3751.2	Have same basic knowledge on international aspect of management.	L1RE
GE3751.3	Ability to understand management concept of organizing.	L2UN
GE3751.4	Ability to understand management concept of directing.	L2UN
GE3751.5	Ability to understand management concept of controlling.	L2UN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
GE3751.1	3	0	0	0	0	1	0	0	0	0	0	0
GE3751.2	0	1	1	0	0	0	0	0	0	0	0	0
GE3751.3	1	0	0	2	0	0	1	0	2	0	1	1
GE3751.4	0	1	1	1	2	0	0	1	2	0	0	0
GE3751.5	1	0	0	0	1	1	0	0	0	3	0	1
GE3751	1.66	1.00	1.00	1.50	1.50	1.00	1.00	1.00	2.00	3.00	1.00	1.00

Course Code	PSO1	PSO2
GE3751.1	2	1
GE3751.2	2	1
GE3751.3	-	-
GE3751.4	1	1
GE3751.5	1	-
GE3751	1.5	1.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	OIE352 / RESOURCE MANAGEMENT TECHNIQUES
Semester	VII
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
OIE352.1	Understand to formulate linear programming problems and solve LPP using simple algorithm	L2UN
OIE352.2	Understand to solve networking problems	L2UN
OIE352.3	Understand to formulate and solve integer programming problems	L2UN
OIE352.4	Understand to solve Non Linear programming problems	L2UN
OIE352.5	Understand to understand and solve project management problems	L2UN

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
OIE352.1	0	3	3	2	0	0	0	0	0	0	0	0
OIE352.2	0	3	3	2	0	0	0	0	0	0	0	0
OIE352.3	0	3	3	2	0	0	0	0	0	0	0	0
OIE352.4	0	3	3	2	0	0	0	0	0	0	0	0
OIE352.5	0	3	3	2	0	0	0	0	0	0	0	0
OIE352	0.00	3.00	3.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Course Code	PSO1	PSO2
OIE352.1	3	2
OIE352.2	3	2
OIE352.3	3	2
OIE352.4	3	2
OIE352.5	3	2
OIE352	3.0	2.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	OIE354 / QUALITY ENGINEERING
Semester	VII
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
OIE354.1	Control the quality of processes using control charts for variables in manufacturing industries.	L4AN
OIE354.2	Control the occurrence of defective product and the defects in manufacturing companies.	L4AN
OIE354.3	Control the occurrence of defects in services.	L4AN
OIE354.4	Analyzing and understanding the process capability study.	L4AN
OIE354.5	Developing the acceptance sampling procedures for incoming raw material.	L6CR

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
OIE354.1	2	3	3	0	3	0	0	1	2	0	0	2
OIE354.2	0	3	3	0	3	3	0	0	3	0	0	3
OIE354.3	3	3	3	0	3	0	0	0	3	0	0	3
OIE354.4	3		2	0	3	0	0	0	0	0	1	0
OIE354.5	0	2	0	0	3	0	0	0	3	0	0	3
OIE354	2.60	2.70	2.70	0.00	3.00	3.00	0.00	1.00	2.70	0.00	1.00	2.70

Course Code	PSO1	PSO2
OIE354.1	1	0
OIE354.2	0	2
OIE354.3	1	0
OIE354.4	1	0
OIE354.5	0	0
OIE354	1.0	2.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	OHS352 / PROJECT REPORT WRITING
Semester	VII
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
OHS352.1	Write effective project reports.	L6CR
OHS352.2	Use statistical tools with confidence.	L2UN
OHS352.3	Explain the purpose and intension of the proposed project coherently and with clarity.	L2UN
OHS352.4	Create writing texts to suit achieve the intended purpose.	L6CR
OHS352.5	Master the art of writing winning proposals and projects.	L5EV

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
OHS352.1	2	1	1	1	1	3	2	2	3	3	3	3
OHS352.2	2	2	2	1	1	1	2	1	2	3	2	3
OHS352.3	2	2	3	3	2	3	2	2	2	3	2	3
OHS352.4	3	3	3	3	3	3	3	3	3	3	3	3
OHS352.5	3	3	3	3	3	3	3	3	3	3	3	3
OHS352	2.40	2.20	2.40	2.20	2.00	2.60	2.40	2.20	2.60	3.00	2.60	3.00

Course Code	PSO1	PSO2
OHS352.1	0	0
OHS352.2	0	0
OHS352.3	0	0
OHS352.4	0	0
OHS352.5	0	0
OHS352	0.0	0.0

1	Slight	2	Moderate	3	Substantial
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Course Code / Course Name	AD3811 / PROJECT WORK / INTERNSHIP
Semester	VIII
Regulation	R2021

Course code	Course Outcome	BTL
Students will be able to		
AD3811.1	Gain Domain knowledge and technical skill set required for solving industry / research problems	L1RE
AD3811.2	Provide solution architecture, module level designs, algorithms	L2UN
AD3811.3	Implement, test and deploy the solution for the target platform	L3AP
AD3811.4	Prepare detailed technical report, demonstrate and present the work	L5EV

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
AD3811.1	3	3	2	1	3	1	1	2	2	3	0	2
AD3811.2	2	2	2	1	3	2	1	1	2	2	0	1
AD3811.3	2	1	2	2	3	2	1	1	1	1	0	1
AD3811.4	3	2	1	1	2	1	1	1	2	3	1	1
AD3811	3.00	3.00	2.00	1.00	3.00	1.00	1.00	2.00	2.00	3.00	0.00	2.00

Course Code	PSO1	PSO2
AD3811.1	0	0
AD3811.2	0	0
AD3811.3	0	0
AD3811.4	0	0
AD3811.5	0	0
AD3811	0.0	0.0

1	Slight	2	Moderate	3	Substantial
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Sl.No.	SEM	COURSE CODE	COURSE TITLE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	I	C101	Professional English I	1.60	2.20	1.80	2.20	1.50	3.00	3.00	3.00	1.60	3.00	3.00	3.00
2	I	C102	Matrices and Calculus	3.00	3.00	1.00	1.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	3.00
3	I	C103	Engineering Physics	3.00	3.00	1.60	1.20	1.80	1.00	0.00	0.00	0.00	0.00	0.00	1.00
4	I	C104	Engineering Chemistry	2.80	1.30	1.60	1.00	0.00	1.50	1.80	0.00	0.00	0.00	0.00	1.50
5	I	C105	Problem Solving and Python Programming	2.00	3.00	3.00	3.00	2.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
6	I	C106	Heritage of Tamils	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00
7	I	C107	Problem Solving and Python Programming Laboratory	2.00	3.00	3.00	3.00	2.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
8	I	C108	Physics Laboratory	3.00	2.40	2.60	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	I	C109	Chemistry Laboratory	2.60	1.30	1.60	1.00	1.00	1.40	1.80	0.00	0.00	0.00	0.00	1.30
10	I	C110	English Laboratory	3.00	3.00	3.00	3.00	1.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
11	II	C111	Professional English II	3.00	3.00	3.00	3.00	2.75	3.00	3.00	3.00	2.20	3.00	3.00	3.00
12	II	C112	Statistics and Numerical Methods	3.00	3.00	1.00	1.00	1.00	0.00	0.00	0.00	2.00	0.00	2.00	3.00
13	II	C113	Physics for Information Science	3.00	1.30	2.00	1.30	2.30	1.00	1.30	0.00	0.00	0.00	0.00	2.00
14	II	C114	Basic Electrical, Electronics and Instrumentation Engineering	2.00	1.80	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	2.00
15	II	C115	Engineering Graphics	3.00	1.00	2.00	0.00	2.00	0.00	0.00	0.00	0.00	3.00	0.00	2.00
16	II	C116	Data Structures Design	2.00	2.00	1.00	2.00	2.00	1.00	1.00	0.00	1.00	1.00	1.00	2.00
17	II	C117	Tamil and Technology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00
18	II	C118	Engineering Practices Laboratory	3.00	2.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	2.00
19	II	C119	Data Structures Design Laboratory	2.00	2.00	2.00	1.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00
20	II	C120	Communication Laboratory/Foreign Language	2.40	2.80	3.00	3.00	1.80	3.00	3.00	3.00	3.00	3.00	3.00	3.00
21	III	C201	Discrete Mathematics	1.00	3.00	2.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
22	III	C202	Digital Principles and Computer Organization	3.00	3.00	3.00	3.00	1.80	1.60	1.00	1.00	1.00	1.00	1.60	2.60
23	III	C203	Database Design and Management	2.00	2.00	2.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	1.00	1.00
24	III	C204	Design and Analysis of Algorithms	3.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00

Sl.No	SEM	COURSE CODE	COURSE TITLE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
25	III	C205	Data Exploration and Visualization	2.00	1.00	2.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00
26	III	C206	Artificial Intelligence	2.00	1.00	2.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00
27	III	C207	Database Design and Management Laboratory	2.00	2.00	2.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00
28	III	C208	Artificial Intelligence Laboratory	2.00	1.00	2.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00
29	III	C209	Professional Development	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
30	IV	C210	Probability and Statistics	3.00	3.00	1.00	1.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00
31	IV	C211	Operating Systems	2.00	2.00	2.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00
32	IV	C214	Machine Learning	2.00	2.00	3.00	2.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00
33	IV	C215	Fundamentals of Data Science and Analytics	1.00	1.00	2.00	2.00	2.00	0.00	0.00	0.00	3.00	2.00	2.00	2.00
34	IV	C216	Computer Networks	2.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00	1.00
35	IV	C217	Environmental Sciences and Sustainability	2.80	1.80	1.00	1.00	0.00	2.20	2.40	0.00	0.00	0.00	0.00	1.80
36	IV	C218	Data Science and Analytics Laboratory	2.00	2.00	1.00	2.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00
37	IV	C219	Machine Learning Laboratory	2.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00
38	V	C301	Deep Learning	2.80	2.40	2.00	2.40	2.20	0.00	0.00	0.00	1.60	2.40	1.40	2.40
39	V	C302	Data and Information Security	2.40	2.60	2.40	2.20	1.50	0.00	0.00	0.00	1.40	2.20	1.20	2.20
40	V	C303	Distributed Computing	1.80	2.40	1.80	2.40	2.00	0.00	0.00	0.00	2.60	2.20	2.20	1.60
41	V	C304	Big Data Analytics	2.80	3.00	2.80	2.80	2.80	0.00	0.00	0.00	2.20	1.80	2.60	2.00
42	V	C305	Cloud Services Management	1.80	1.80	2.00	1.80	2.20	0.00	0.00	0.00	1.80	2.40	2.20	1.40
43	V	C306	Multimedia and Animation	3.00	2.80	3.00	2.80	3.00	2.00	0.00	0.00	3.00	2.80	2.20	2.60
44	V	C307	Disaster Risk Reduction and Management	3.00	3.00	3.00	3.00	0.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00
45	V	C308	Deep Learning Laboratory	2.60	2.60	1.60	2.00	1.40	0.00	0.00	0.00	2.00	2.40	2.20	1.60
46	VI	C309	Summer internship	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	VI	C310	Embedded Systems and IoT	2.60	2.00	3.00	2.40	1.50	0.00	0.00	0.00	1.00	2.20	2.20	2.40
48	VI	C311	Introduction to Industrial Engineering	2.20	2.00	2.50	1.30	1.00	0.00	0.00	2.00	0.00	0.00	1.00	1.00

B.E. ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

CO Mapping with PSOs I to VIII SEMESTER

S. No.	SEM	COURSE CODE	COURSE TITLE	PSO1	PSO2
1	I	C101	Professional English I	0.0	0.0
2	I	C102	Matrices and Calculus	0.0	0.0
3	I	C103	Engineering Physics	0.0	0.0
4	I	C104	Engineering Chemistry	0.0	0.0
5	I	C105	Problem Solving and Python Programming	3.0	3.0
6	I	C106	Heritage of Tamils	0.0	0.0
7	I	C107	Problem Solving and Python Programming Laboratory	3.0	3.0
8	I	C108	Physics and Laboratory	0.0	0.0
9	I	C109	Chemistry Laboratory	0.0	0.0
10	I	C109	English Laboratory	0.0	0.0
11	II	C110	Professional English II	0.0	0.0
12	II	C111	Statistics and Numerical Methods	0.0	0.0
13	II	C112	Physics for Information Science	0.0	0.0
14	II	C113	Basic Electrical and Electronics Engineering	0.0	0.0
15	II	C114	Engineering Graphics	2.0	2.0
16	II	C115	Data Structures Design	2.0	2.0
17	II	C116	Tamil and Technology	0.0	0.0
18	II	C117	Engineering Practices Laboratory	2.0	1.0
19	II	C118	Data Structures Design Laboratory	2.0	2.0
20	II	C119	Communication Laboratory/Foreign Language	0.0	0.0
21	III	C201	Discrete Mathematics	0.0	0.0
22	III	C202	Digital Principles and Computer Organization	1.4	2.6
23	III	C203	Database Design and Management	2.0	2.0

S. No.	SEM	COURSE CODE	COURSE TITLE	PSO1	PSO2
24	III	C204	Design and Analysis of Algorithms	2.0	2.0
25	III	C205	Data Exploration and Visualization	2.0	2.0
26	III	C206	Artificial Intelligence	2.0	2.0
27	III	C207	Database Design and Management Laboratory	2.0	2.0
28	III	C208	Artificial Intelligence Laboratory	2.0	2.0
29	III	C209	Professional Development	2.0	2.0
30	IV	C210	Probability and Statistics	0.0	0.0
31	IV	C211	Operating Systems	2.0	1.0
32	IV	C215	Machine Learning	2.0	2.0
33	IV	C216	Fundamentals of Data Science and Analytics	3.0	2.0
34	IV	C217	Computer Networks	2.0	2.0
35	IV	C218	Environmental Sciences and Sustainability	0.0	0.0
36	IV	C219	Data Science and Analytics Laboratory	2.0	2.0
37	IV	C220	Machine Learning Laboratory	2.0	2.0
38	V	C301	Deep Learning	2.0	1.8
39	V	C302	Data and Information Security	1.8	2.0
40	V	C303	Distributed Computing	2.0	1.8
41	V	C304	Big Data Analytics	2.2	2.8
42	V	C305	Cloud Services Management	1.8	1.8
43	V	C308	Multimedia and Animation	3.0	2.4
44	V	C309	Disaster Risk Reduction and Management	2.0	0.0
45	VI	C310	Deep Learning Laboratory	2.4	2.8
46	VI	C311	Summer internship	3.0	2.0
47	VI	C312	Embedded Systems and IoT	2.2	1.6

SRM TRP ENGINEERING COLLEGE

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SRM TRP
ENGINEERING COLLEGE
Affiliated to ANNA UNIVERSITY
TIRUCHIRAPPALLI

SRM Nagar, Irungalur, Tiruchirappalli – 621 105, Tamil Nadu, India

S. No.	SEM	COURSE CODE	COURSE TITLE	PSO1	PSO2
48	VI	C313	Introduction to Industrial Engineering	2.0	1.0
49	VI	C314	Cloud Computing	1.6	1.8
50	VI	C315	Data Warehousing	2.0	2.0
51	VI	C316	Network Security	2.2	1.4
52	VI	C317	Cyber Security	2.0	2.2
53	VII	C401	Industrial Safety	3.0	3.0
54	VII	C402	Human Values and Ethics	2.0	2.0
55	VII	C403	Principles of Management	1.5	1.0
56	VII	C404	Resource Management Techniques	3.0	2.0
57	VII	C405	Quality Engineering	0.0	0.0
58	VII	C406	Project Report Writing	0.0	0.0
59	VIII	C407	Project Work / Internship	0.0	0.0